ODP # 81-170

21 January 1981

MEMORANDUM FOR: Director of Finance

25X1   FROM: _____
                                                 AD/P&P

         SUBJECT: Payroll System Study

    1. We must act now. Clearly this is the message that the attached study is telling us. We do not believe that we are overstating our case because the study makes it clear that the payroll technicians are spending an inordinate amount of time on manual processing; as an example, forty-six percent (46%)of their time each biweek period is spent on manual preparation of payroll adjustments and thirty-one percent (31%) is spent on manual changes to the master file (the computer file that contains certain basic information on each indivudual payrolled). This study projects an estimated savings of manual effort by payroll of forty-four percent (44%) in these functions alone. In addition, use of CRT or OCR input could save over two hundred (200) work hours each biweek pay period for ODP production.

    2. The trend clearly reflects an ever increasing manual workload for our payroll technicians. A delayed payroll and a large increase in salary over and under payments could occur if this situation is not rectified soon.

    3. I recommend that the Office of Finance and ODP jointly proceed with the next step to review in detail and complete a preliminary design study for a new system. This would probably take six months to complete utilizing three finance personnel and three senior Systems Analysts from ODP. After such study we will be in a much better position to provide additional details concerning development time and cost estimates.

    4. The report is submitted in four (4) parts as follows:

Executive Summary	(Attachment 1)
Summary of Conceptual Proposals for New Payroll System	(Attachment 2)
Details of Conceptual Design Proposals for New Payroll System	(Attachment 3)
Background Data	(Attachment 4)

    5. We will be happy to meet with you for discussion on the report after you have had the opportunity to review the documentation.

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Attachment 1
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New Payroll System

Executive Summary

An Office of Finance (OF) study, just completed, recommends that the Agency proceed now with a new payroll system that would utilize all available interface capabilities, develop new or expand existing automated techniques that would substantially reduce manual operations, provide the needed flexibility to react to required changes without major reprogramming, and provide management with needed statistical information.

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The study group was composed of Mr. [   ]   25X1

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[   ], the current Deputy Chief of Compensation Division acted as Senior Advisor to the group. All members of the group have had either past or current payroll experience and

25X1 Messrs. [   ] were involved in the development of the current payroll system.

The study was initiated as a result of recommendations made by the Office of Data Processing (ODP) in their General Requirements Study dated 16 September 1980. Generally, both offices agree that the current system effectively computes pay but leaves many operations to be done manually and requires a considerable amount of resources to maintain. This raises several major points that concern the OF, the primary one being ODP's estimate of five to seven (5-7) years to develop a new system. For all practical purposes the current system is approximately ten (10) years old; this is old for a system as sophisticated and complex, and with as many changes that have been made since its initial development. Another major point concerning OF is that we do not anticipate the one-to three (1-3) year modifications to the present system having any dramatic affect in the work hours required to produce the biweekly payroll. This is especially important since the manual effort expended by Compensation Division is growing at an alarming rate.

In arriving at its recommendation the study group reviewed those facets of the current payroll operation which require the most manual effort. Further, they developed various conceptual design proposals aimed toward substantial reduction of this manual effort and attendant work time. Through analysis it has been noted that the majority of these conceptual changes would require development of a new system, according to the ODP study. Further contributing to the problem is the fact that additional requirements, mostly bearing on the manual operations, are continually being levied on payroll. Considering the amount of overtime presently needed to meet the demands, it appears evident
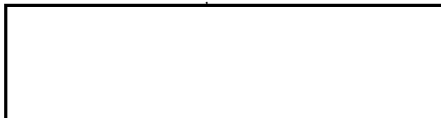
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that payroll cannot continue to absorb new requirements with the present staff without jeopardizing their basic responsibility of paying employees on an accurate and timely basis.

It has been concluded that immediate development of a new payroll system could significantly reduce by 12.5 work years the combined payroll and ODP resources, currently expended on manual operations and ODP systems maintenance. Additionally, immediate development of a new system would permit more timely implementation of programs to extract valuable management and statistical information and exploration of modern data entry techniques. In order to procced now, both the OF and ODP will have to make available manpower resources needed for the development, design, and testing of a new system.

It is envisioned that a new payroll system would differ vastly from the present one in that technology, such as, Optical Character Reader (OCR) would be explored as a viable data entry technique and more current software and design methodology would be employed. We would seek to provide a rapid query capability through the use of Cathode Ray Terminals (CRT) so that payroll technicians could operate more efficiently. Further we would seek to provide OF management with the capability for rapid retrieval of statistical data and the flexibility to structure query programs without the total dependance on ODP we must now have.

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Chairman, Payroll Study Group

Summary of Conceptual Design Proposals

for New Payroll System

1. Concept: Increase and utilize the amount of payroll data received via interface from other computer systems.

Module(s) Possibly Affected: Master File

Benefits: a.   Significant reduction (approximately 320 work hours) in time expended by payroll each biweek pay period.
      b.   Reduction in time utilized for four phase processing (approximately 48 work hours per biweek pay period).
      c.   Increased accuracy through elimination of processing via hard copy documentation.
      d.   Potential savings of approximately 50% in hard copy storage requirements for documentation currently input manually.
      e.   Potential reduction in queries to payroll regarding allotments from pay for credit union, insurance, VIP, etc.
      f.   Provides capability for more timely processing of input data.

Impact: a.   Would require modification of computer systems affected by increased or new computerized interface.
      b.   Would require modification of existing front end procedures of payroll system.

2. Concept: Devise alternative methods to input time and attendance data, i.e. Optical Character Reader (OCR) or Cathode Ray Tube terminal (CRT).

Module(s) Possibly Affected: T&A

Benefits: a.   Eliminate or significantly reduce payroll workload presently devoted to sight audit and manual batching of T&A cards (approximately 48 work hours per biweek pay period).
      b.   Eliminate time needed for four phase processing of T&A cards by ODP (approximately 200 work hours per biweek period).
      c.   Reduce payroll's missing T&A report workload (approximately 16 work hours per biweek pay period).
      d.   Possible greater flexibility in establishing edit criteria when special occasions arise affecting reporting of leave and/or premium time.

Impact: a.   May impact on workload of the various components'
T&A clerks.
        b.   May require new programs to facilitate CRT or
OCR input process, for example;
            (1) Mini-payroll file to verify employee number,
            (2) Structured data to simulate a four phase T&A
    file,
            (3) Computer routine to replace certain
    transaction codes used in T&A batching process.

3. Concept: Capture daily time and attendance information on a
pay period basis.

Module(s) Possibly Affected: T&A

Benefits: a.   Provide base of reference for computer reaction to
    effective dates that occur other than first day of current
    pay period.
        b.   Provide base of reference for computer processing
of amended time and attendance reports.
        c.   Provide data base for response to any queries
that pertain to duty status, including timely statistical
reports for management.

Impact: If done without implementing Concept #2 a considerable
    increase in four phase time would be required.   With
    implementation of Concept #2 a definite savings of four phase
    time would occur.

4. Concept: Provide for terminal retrieval of daily T&A data by
payroll technicians.

Module(s) Possibly Affected: T&A

Benefits: a.   Would minimize time required by payroll to obtain
    T&A data in response to queries and/or service questions
    raised in T&A exception listings.
        b.   Potential savings in ODP resources needed for
response to ad-hoc requests for management information
reports.

Impact: a.   As noted in Concept #3 above, may require
    additional time to input daily T&A information.
        b.   Would require new programming since present
system does not capture daily T&A information.

5. Concept: Computer processing of amended T&A's and computer reaction to effective dates predicated on daily T&A information.

Module(s) Possibly Affected: T&A, Pay Compute

Benefits: Significant reduction in time (approximately 614 work hours per biweek pay period) currently devoted to adjustments based on amended T&A's, [   ] premium time difference payments, and effective dates occurring on other than the first day of the current pay period.   25X1

Impact: a. Would require new programming.
            b. Would require that daily time and attendance data be input, captured, and stored by computer.

6. Concept: Provide capability for access, via terminal query, to all data from payroll's computerized history files.

Module(s) Possibly Affected: All

Benefits: a. Would allow OF management flexibility to structure query programs for management information.
            b. Would provide Audit Staff with quick reaction query capability and flexibility to structure ad hoc query requests, as needed.
            c. Would provide payroll technicians with quick reaction query capability.

Impact: Would require development of programs to provide for suitable access to computer history files.

7. Concept: Modify Biweek front end computer routine to capture certain NOCB data from interface tapes and;

            (1) Pass to NOCB system via tape for master file input or,
            (2) Prepare hard copy output in NOCB report format for delivery to and processing by NOCB.

Module(s) Possibly Affected: Master File

Benefits: a. More timely notification and processing of actions pertaining to NOCB pay cases.
            b. Would reduce error messages on AOB exception listings and attendant actions required by biweek pay technicians.

Impact: Would require modification of current biweek payroll
front end routine to identify and pass data applicable to
NOCB pay cases.

8. Concept: Redesign NOCB Master File to interact with other
systems.

Module(s) Possibly Affected: Master File

Benefits: a.   Would provide data base for computer
processing of routine actions passed from other computer
systems, e.g., WGI's, Promotions, tax changes, etc.
            b.   Would provide data base for automation of
leave records on NOCB pay cases and automated posting of
retirement records.
            c.   Would provide data base on NOCB pay cases
for obtaining statistical information necessary for a viable
Management Information System.

Impact: Would require development of new programs or
modifications to present Master File structure to handle NOCB
pay cases.

9.   Concept: Automate posting of retirement records (SF 2806.CSC
and Form 3114. CIARDS).

Module(s) Possibly Affected: Master File, Retirement History

Benefits: a.   Reduction in time currently devoted to manual
posting of retirement records (approximately 1100 work hours
per year).
            b.   Reduction in errors associated with manual posting
and filing of retirement cards.
            c.   Potential reduction in hard copy storage
requirements. (NOTE: Information could be stored in computer
and printed in hardcopy format, as required).

Impact: a.   Would require development of computer programs
to capture, store, and retrieve necessary retirement data.
            b.   Would require development of NOCB programs
for automation of retirement posting for four week pay cases.

10.   Concept: Devise alternate methods (CRT or OCR) for AOB pay
technicians to update Master Files and input TEMPO adjustments.

Module(s) Possibly Affected: Master File

Benefits: a.   Reduction in ODP time (approximately 88 work
     hours per biweek pay period) currently expended for four
     phase processing of Master File updates and TEMPO
     adjustments.
             b.   Could provide payroll technicians with more
     effecient query capability to determine status and number of
     adjustments in process for current pay period, thereby
     eliminating the preparation of duplicate adjustments.
             c.   Could be developed in conjunction with use of CRT
     or OCR for processing T&A's.

Impact: Would require development of software package to
     structure OCR or CRT output to simulate current four phase
     processing to minimize impact on PAY COMUTE programs.

11.   Concept: Provide payroll with CRT terminal roster query and
update capability.

Module(s) Possibly Affected: Master File

Benefits: a.   Would provide more effecient method for
     distribution of incoming mail and capability for quicker
     response to any queries concerning basic payrolling
     information.
             b.   Would provide capability to enter all pay cases
     into system on a more timely basis.
             c.   Would eliminate printing and storage of hard copy
     rosters.

Impact: Would require development of programs to provide
     payroll with on-line query and update capability.

12.   Concept: Design Master File in the payroll system to
accept additional data without major reprogramming.

Module(s) Possibly Affected: Master File

Benefits: Would permit more timely addition of new items
     to Master File.

Impact: Would require change in each program that interacts
     with Master File.

13.   Concept: Expand electronic Time and Attendance reporting
for Overseas and Domestic installations and NOCB pay cases
to be consistent with the concepts in this study for capturing
daily T&A data.

Module(s) Possibly Affected: T&A

Benefits: a.   Would provide capability for more timely
    processing of premium time and claim payments.
                b.   Would enhance automation of leave posting for
    all pay cases.

Impact: a.   Would require additional communication time at
    field installations and Headquarters.
                b.   If leave posting automated, would require
    expansion of NOCB Master File to include leave data.

14.   Concept: Structure pay and leave data in appropriate manner
to allow for more detailed fiscal and/or calendar year analysis
and retrieval.

Module(s) Possibly Affected: All

Benefits: a.   Would provide OF with the capability to furnish
    management with detailed pay and/or leave data that must
    presently be derived manually.
                b.   Would provide capability for automated assistance
    in developing budgetary information.

Impact: Would require development of programs for capturing
and   extracting data in sufficient detail for further
    analysis and use by interested Agency components.

15.   Concept: Devise a new input coding structure that will
provide the capability to accept additional data items without
the need for periodic revisions to the codes.

Module(s) Possibly Affected: All

Benefits: a.   Would allow for automated processing of items
    dictated by new legislation or internal authorities, e.g.,
    allowances, additional FEGLI or other life/health insurances,
    etc.
                b.   Would lessen the impact on ODP and payroll
    operations currently experienced when new items are added
    which often requires major reprogramming by ODP and manual
    payroll processing.

Impact: Would require development of a completely new Pay
    Compute routine or major modifications to the present one to
    restructure the current Data Identification Codes (DIC) which
    are an inherent part of this function.

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General Impact Statement

In addition to the various items mentioned in the above impact statements, it should be noted that there may be a problem with installing additional CRT terminals in Key Building depending on the GRID capacity, terminal allocation to OF, and the supply of TEMPEST approved terminals at the time they are required.

It is also recognized that there are security implications applicable to certain concepts, however, due to the complexity of this matter we did not address this issue in the individual impact statements

Details of Conceptual Design Proposals

for New Payroll System

1. Concept: Increase and utilize the amount of payroll data
received via interface from other computer systems.

Background: Currently there are at least eight (8) (see below)
other computer assisted operations within the Agency that contain
information essential to the payroll operation. At present much
of the information affecting payroll requires manual preparation
of an input document by payroll technicians for processing via
the four phase system. Other information is processed directly
into the payroll system without intervention by the payroll
technician, or by input documents prepared by the employee or by
a service office (tax exemption, Credit Union, VIP, etc.).
However, those documents prepared by the employee or service
office are presently sight audited and batched by payroll
personnel preparatory to punching via the four phase process.
For example, based on a sampling of the total Master File actions
per pay period it is estimated that an average of fifty-four (54)
percent require manual payroll processing, eighteen (18) percent
require sight audit and batching only with the remaining twenty-
eight (28) percent being fully processed via automatic
interface. Generally speaking, each computer system that impacts
on payroll and is in use by the Agency today, requires some
manual input of the data from that system by payroll personnel.
This is true even of PERSIGN and PERSTEP since contract employee
information, even though captured and passed to the payroll
process from these respective systems, is not being utilized. Thus
maximum use of available automatic interface capabilities should
be a major consideration and eventual requirement of a new
payroll system.

Specific Data: Listed below are the current computerized systems
which contain information needed by the payroll system. A brief
description of each system, it's current use and potential
effectiveness is also included.

     a. PERSIGN: This system contains the basic information to
     establish an individual in the payroll system and maintain
     that record in a current status. The interface tape received
     from PERSIGN contains information applicable to both staff
     and contract personnel, however, only staff data is used by
     the payroll system because the payroll computer routines are
     not designed to accept and process contract information from
     the PERSIGN system. This information can only be used when
     received as a four phase input process.

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This means that the payroll technician must manually encode this information so that it can be converted to a four phase process. Modification of the existing payroll programs processing. PERSIGN information is essential so that information on contract cases can be processed as is currently being done on staff cases, thereby eliminating both the manual encoding by payroll and the four phase process.

b. PERSTEP: This system provides the information applicable to Within-Grade Increases (WGI's) for both staff and contract personnel. At present only the staff information is being utilized on the biweek pay system. Modifications should be made to allow use of this information on all types of employees.

c. PERINSURE: When operational this system will provide via interface tape pertinent insurance information applicable to both staff and contract personnel. The biweekly payroll system should be modified to accept and use this information on all types of employees when available in this mode.

d. CENCO: This system contains certain information applicable to covert personnel. Presently the major use is

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This information is processed into payroll via the four-phase system based on an IBM card format prepared by Central Cover Staff. While not greatly involved in the manual process, payroll must sight audit the cards prior to four phase processing. Possibilities should be explored in depth to determine what other information that could be obtained from CENCO. Consideration should also be given to the possibilty of payroll update by computer interface based on terminal input of applicable information by Central Cover Staff.

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e. CREDIT UNION: This system contains the necessary information to establish, change, or stop an allotment from pay for credit to an individual's credit union account. Presently the information is processed into the payroll system by the four phase process based on IBM format cards prepared by the employee and/or the credit union. These cards are forwarded to payroll for batching prior to the four phase process. Consideration should be given to having the credit union input all information via terminal for updating payroll records with basic employee authorization documents being retained by the credit union. This would eliminate not only the payroll batching and four phase process, but should ra_____ of _____ to payroll from

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f. <u>Voluntary Investment Plan (VIP)</u>: This system contains the necessary information to establish, change, or stop an allotment from pay for credit to an individual's VIP account. Presently the information is processed into payroll via four phase tape with the VIP allotment card in IBM format prepared by the individual and/or the VIP office. These cards are forwarded to payroll for batching prior to the four phase process. Consideration should be given to having the VIP office update allotments via terminal input and retaining the employee authorizations (the same as for the credit union). This would eliminate not only the payroll batching and four phase processing but quickly reduce queries to payroll concerning VIP allotments.

g. <u>CEMLOC</u>: This system is maintained by O/PPP&M and contains information pertaining to the permanent and mailing addresses used for W-2 purposes. Presently computer tapes from the payroll file and the CEMLOC file are matched on a yearly basis to obtain the addresses for the production of W-2's.

Consideration should be given to a more current update via computer interface, possibly on a pay period basis, thus identifying missing addresses throughout the year lessening the year end impact. Additionally this system could, via interface, provide payroll with the necessary address information to determine if appropriate state income taxes are being withheld in compliance with laws of the various taxing jurisdictions.

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h. ☐ This system contains the necessary information to establish, change, or stop a covert tax assessment rate on non-official cover personnel administered under the covert tax procedures and payrolled in the four-week payroll system. In addition this system contains other pertinent information concerning the type of cover assigned to non-official cover personnel. Presently the tax and other cover information is passed to payroll via hardcopy documentation. Consideration should be given to allow for passing this information to payroll via terminal input by Central Cover Staff.

2. <u>Concept</u>: Devise alternative methods to input time and attendance data, i.e., Optical Character Reader (OCR) or Cathode Ray Tube terminal (CRT).

<u>Background</u>: One of the major functions in the cycle of any payroll process is the recording of time and attendance data for pay and leave purposes. The current process utilized by payroll involves

preparation for machine input. Currently payroll is expending approximately 48 work hours and ODP 200 work hours per biweek pay period to process T&A cards. This coupled with the fact that current data is not captured in sufficient detail to allow for adequate retrieval attendant to proper use of a Management Information System dictate that a concerted effort be placed on finding a suitable replacement for the current methods.

Specific Data: Optical Character Reader (OCR)-A detailed study would have to be made of the available systems to determine the practical application of OCR for processing time and attendance reports.

However, preliminary discussions with Agency personnel knowledgeable of this equipment indicate that the state of the art is such that it is feasible to consider OCR as an alternative, especially when considering the capture of daily time and attendance data.

The cost of an OCR system would be commensurate with what we would expect it to do. i.e., read different type fonts, read hand script, microfilm documents, etc. While actual cost may vary it is probably safe to say, based on preliminary discussions with the technical representatives of an OCR manufacturer, the basic cost would be approximately $300,000. It is envisoned, however, that an OCR system with good flexibility-could be used for more than processing T&A reports and could be useful in processing not only other payroll items, but also data for input into GAS and information from other OF components.

Specific Data: Cathode Ray Tube Terminal(CRT)-Since CRT terminals are presently used by many Agency components with respect to ongoing programs it may be possible to utilize CRT for the recordation of time and attendance data for the majority of personnel paid on the biweekly payroll system. As there are a number of T&A clerks throughout the Headquarters area an in depth study would have to be made regarding terminal availability for T&A input. This would be a fairly structured routine with certain time frames, therefore it would be essential that T&A clerks not only had access to a terminal but access during a particular period of time. Possibly components could redistribute this function so that the number of T&A clerks could be reduced thus reducing the quantity of terminals required and providing better internal controls.

Procedures would also have to be established concerning the approval of premium time and initials for employee leave charges.

Summary: While both OCR and CRT have potential use for recording time and attendance data it would appear that OCR would have less impact on the Agency components. It is recommended, however, that neither one be ruled out until in-depth studies can be

completed to determine their practical application.

3. Concept: Capture daily time and attendance data on a pay period basis.

Background: In order for a new payroll system to properly react to and process actions based on actual effective dates (other than the first day of a current pay period), process amended T&A,s, and record information necessary for maintenance of a viable Management Information System , it is necessary to input daily time and attendance data. Further justification and background on this is provided with background information for Concept #5 below.

4. Concept: Provide for terminal retrieval of daily T&A data by payroll technicians.

Background: Currently all specific data needed by a payroll technician concerning T&A codes must be obtained by physical review of the hardcopy T&A card. This involves an inordinate amount of time to locate specific T&A's needed to resolve questions presented in the T&A exception listings since all of the payroll technicians must work from the T&A cards stored in one location. Thus, even getting to the documents presents a problem since there are 16 technicians and at maximum only 3 of them can physically work with the T&A cards at any given time. In addition to needing access to T&A information to process reports payroll technicians are called upon to provide detailed data in response to ad hoc requests. While it is difficult to determine exactly how much time is devoted to the foregoing items due to physical constraints because of T&A card filing procedures, it is estimated that 1 work day per week is being spent to locate T&A cards.

5. Concept: Computer processing of amended T&A's and computer reaction to effective dates predicated on daily T&A information.

Background: [   ] 25X1
any changes to pay entitlements that are effective on any date, other than the first day of the current pay period, must be processed by the payroll technician. This includes entitlements of base pay through payments for premium time hours, differentials and allowances.

Payroll utilizes approximately 960 work hours each biweek pay period preparing pay adjustments. It is estimated that of this total workload, approximately 614 work hours pertain to adjustments of entitlements because computer programs have not

been designed to compute entitlements based on amended T&A's, actual effective dates, and [   ] time difference payments. **25X1** In addition to the payroll time approximately 40 work hours of ODP time is needed for the four phase processing of these items. Presently these three categories of ajustments represent approximately 64% of all adjustment transactions manually prepared each biweek pay period by payroll technicians.

The addition of the new GSO pay scale may present further problems since almost every PCS arrival and departure will represent a potential adjustment. Thus it is very important that every effort be made to eliminate manual adjustments in the development of a new payroll system.

6.Concept: Provide capability for access, via terminal query, to all data from payroll's computerized history files.

Background: Management has a continuing need for MIS type information which is not readily predictable and certainly not defineable except at the time the need for the information arises. To provide for this eventuality, detail information on a pay case basis must be made available so that Management can structure its own query programs to extract information as the need arises.

Access to computer history files of CACER, Leave, Tax, and T&A information will meet this requirement (We would propose that each pay record include the rate of pay, station location, FAN, **25X1** and [   ] Y/N code that was in effect during each pay period).

7.Concept: Modify Biweek front end computer routine to capture certain NOCB data from interface files, and;

    a. Pass to NOCB system via tape for master file input or,
    b. Prepare hardcopy output in NOCB report format for delivery
    to and processing by NOCB.

Background: Under current procedures certain information applicable to NOCB pay cases, which is passed to payroll via computer interface, is not being utilized. The data passed on these cases are rejected and appear on the biweek payroll exception listing. This means that personal attention must be devoted by the biweek pay technicians to notify their NOCB counterparts of items requiring immediate action, otherwise waiting for hardcopy documentation could result in errroneous pay. Obviously this provides potential for some slippage and an effort should be made to utilize the available computer information on NOCB pay cases, at least as advance notice, so

that actions can be effected or followed up on in a timely manner
without regard to notification from the biweek pay technicians.

8.Concept: Redesign NOCB master file to interact with other
systems.

Background: The operation in NOCB is primarily a manual one and
should, for the most part, remain that way in order to provide
the needed flexibility in handling the variety of pay cases they
encounter. However, there are certain functions in NOCB which
could be automated as a stand alone process, i.e., posting of
leave records, or in conjunction with concepts to automate other
payroll functions that would affect NOCB, i.e., automation of
retirement record postings. Additionally, the capability to
query pay/statistical data on NOCB pay cases should be an
essential consideration in building a Management Information
System. In order to accomplish the foregoing we believe it is
necessary to build upon a Master file for NOCB pay cases.

9. Concept: Automate posting of retirement records (SF 2806.CSC
and Form 3114.CIARDS).

Background: At present the posting of retirement records is a
manual operation requiring approximately 1100 work hours per
year. Automation of this process would considerably reduce the
manual effort expended and the attendant potential for errors and
misplaced records. Over a period of time it could also reduce the
hard copy storage requirements since the appropriate information
could be stored in the computer, producing hardcopy printout as
needed. In order to use this concept to the maximum benefit the
system should be able to capture and retain the necessary
information on all types of employees covered under a government
retirement program including those on the four-week payroll.
This would require expansion of the NOCB master file per Concept
#8 above.

10. Concept: Devise alternate methods (CRT or OCR) for AOB pay
technicians to update master files and prepare TEMPO adjustments.

Background: Notwithstanding other concepts to automate many of
the payroll operations through better use of interface and
computer reaction to effective dates there would remain certain
items requiring manual update by payroll technicians. At present
this is a manual operation accomplished by preparation of
hardcopy forms by the payroll technicians for processing via the
four phase system. Thus errors in preparing the documents or the

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preparation of duplicate adjustments are not generally detected until after the four-phase processing. Along with the proposed use of CRT or OCR for various other functions there appears to be potential for using either of these techniques to prepare pay updates and adjustments This could eliminate the preparation of duplicate adjustments and the payroll technicians could more effeciently query the status and ascertain the number of adjustments in process for the current pay period.

11. Concept: Provide payroll with CRT terminal roster query and update capability.

Background: In addition to the tremendous amount of mail received by payroll, that must be distributed to the appropriate pay technician for action, numerous telephone inquiries are made for individual pay information. This requires searching through hardcopy rosters in order to determine the section and roll number handling the individual. It would appear that a more efficient method could be devised through the use of a CRT terminal whereby basic information (alpha/numeric infomation, roll number, station code) could be displayed. An update capability could also be provided to simplify the addition of new names which cannot be obtained through interface. Production of the hardcopy rosters could be eliminated as well as a reduction in storage requirements.

12. Concept: Design Master File in the payroll system to accept additional data without major reprogramming.

Background: A new payroll system should contain sufficient flexibility to add new items without major reprogramming. This is especially important in payroll's effort to react quickly to new requirements that are continually levied upon them.

13. Concept: Expand electronic time and attendance reporting for Overseas and Domestic installations and NOCB pay cases to be consistent with the concepts in this study for capturing daily T&A data.

Background: Presently there are approximately ⬜ pay cases, including nonofficial cover, part time and intermittent personnel overseas whose time and attendance data are reported on Duty Status Reports. For the most part this involves a manual payroll operation in that each DSR must be reviewed to determine the actual number of hours reported for regular time, premium time and leave charges. Oftentime due to pouch difficulties the time

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and attendance reports are not received on a current basis and
NOCB payroll technicians must manually monitor missing reports.
Payments for when actually employed personnel are also delayed
waiting for DSR's and Performance Reports. It is estimated that
approximately 250 work hours per four week pay period are spent
on the processing of DSR's. While some of this time would still
be needed to manually process data received electronically the
information could be in hand much faster thereby providing a more
timely basis for payments and follow-ups to the field.
Electronic reporting would also enhance the automation of leave
record posting for NOCB pay cases. The ETAR application
overseas, while effective, should be revised to record daily T&A
data.

14. Concept: Structure pay and leave data in appropriate manner
to allow for more detailed fiscal and/or calendar year analysis
and retrieval.

Background: Payroll is often called upon to provide various
Agency components with detailed information necessary for
developing certain budgetary information or responding to other
ad-hoc requests. Many of these requests for information can be
complied with only through manual efforts expended by the payroll
technicians. Although the requests are valid it does detract
from the technicians basic responsibility when time must be taken
to analyze statistical data in order to meet these requirements.
Providing for appropriate structuring and retrieval of payroll
data would provide the capability for payroll to provide this
detailed information when needed without a tremendous impact on
the technician's time.

15. Concept: Devise a new input coding structure that will
provide the capability to accept additional data items without
the need for periodic revisions to the codes.

Background: Under the present payroll system, Data
Identification Codes (DIC) are used to identify specific data
elements to the computer processing programs so that these
programs can execute in accordance with the nature of the
information being processed. Currently specific areas of the DIC
structure are reserved for specific categories of pay information
(i.e., 001-099=Taxable Earnings, 101-199=Non-taxable Earnings,
etc.). If there are no DIC's available in the non-taxable
category, one in the taxable category cannot be used since the
system is dependent on this structure. Thus incorrect processing
would result unless ODP reprograms for this inconsistency in the
coding structure. In the development of a new payroll system
consideration should be given to a complete change in the coding

format so that revisions can be made with minimal impact on ODP and payroll operations.

Attachment 4
Page 1

Background Data to support Executive Summary and Summary of Conceptual Design Proposals

To Be Used For Reference, Conversation, and Backup Documentation ONLY

Overtime hours worked by AOB per activity reports:

Period	Number of Hours
1-31 Jan 80	317
1-29 Feb 80	312
1-31 Mar 80	246
1-30 Apr 80	128
1-31 May 80	300
1-30 Jun 80	183
1-31 Jul 80	315
1-31 Aug 80	311
1-30 Sep 80	493
1-31 Oct 80	632
1-30 Nov 80	632
1-31 Dec 80	386
Total	4,255

Time used by Payroll (NOCB) to process DSR's

Roll 37 one (1) tech @ 40% of time = 64 hrs.
Others six (6) techs @ 20% of time
or 32 hrs times 6 techs. =192 hrs.

ODP Four Phase Time (Per ODP)

T&A Cards	200 hrs
TEMPOS	40 hrs
Master Files	48 hrs
Total	288 hrs per biweek period

NOCB payroll   40 hrs per four weeks

Data to confirm that 15 Major Concepts are covered in Executive Summary

1. Increased Data via Interface- Concept 1

2. New Automation Techniques------Concept(s) 2,3,4,5,8,9,10,11,13

3. MIS Data Base------------------Concept(s) 3,4,6,14

4. System Flexibility------------Concept(s) 12,15

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Data to confirm that 68 original items in ODP study
covered in our 15 Concepts

Concept #1 covered 1-3 year items 7,8,9,10,17(2) 68
                  5-7 year items 18

Concept #2 covered 1-3 year items none
                  5-7 year items 1

Concept #3 covered 1-3 year items none
                  5-7 year items 3,24

Concept #4 covered 1-3 year items none
                  5-7 year items none

Concept #5 covered 1-3 year items 8
                  5-7 year items 4,12,24,32,51,56,57

Concept #6 covered 1-3 year items none
                  5-7 year items 36,39

Concept #7 covered 1-3 year items 9
                  5-7 year items 2

Concept #8 covered 1-3 year items 9
                  5-7 year items none

Concept #9 covered 1-3 year items none
                  5-7 year items 33

Concept#10 covered 1-3 year items none
                  5-7 year items none

Concept#11 covered 1-3 year items none
                  5-7 year items none

Concept#12 covered 1-3 year items 5,16(2&4),22,53,60,61
                  5-7 year items 3,13,14,15,16(1),29,31,
                                  32,48,49,51,57,65

Concept#13 covered 1-3 year items 5
                  5-7 year items none

Concept#14 covered 1-3 year items none
                  5-7 year items 6,41,42

Concept#15 covered 1-3 year items 19
                  5-7 year items 18
Not Feasible per ODP items 12(2) and 16(3)
Active or Completed items 11,17(1),26,27,34,37,38,44,46,47,55
Not in Concepts(Programming) items 20,21,23,25,28,30,35,40,43,
                                  45,50,52,54,58,59,62,63,64,
                                  66,67

Data re Retirement Card Posting

AOB (Biweekly Basis)

CI Section:
```
 9 technicians @ 1.5 hrs  = 13.5 hrs
 2 auditors    @ 1 hr     =    2 hrs
```
Overseas Section
```
 7 technicians @ 1 hr     =    7 hrs
 2 auditors    @ .5 hr    =    1 hr
               Total       23.5 hrs
```

```
        23.5 hrs x 26 p/p = 611 hrs per year
   AOB/NOCB for posting LPI = 160 hrs per year
AOB/NOCB year end posting   = 325 hrs per year
              Grand Total  1,096 hrs per year
```

Data re AOB Technician Manhours
by major function (Biweekly basis)

Function	Time		Total
T&A	4 techs @ 4 hrs	= 16 hr	
	6 techs @ 4.5 hrs	= 27 hrs	
	2.5 techs @ 2 hrs	= 5 hrs	48 hrs
Master Files	7 techs @ 20 hrs	= 140 hrs	
	9.5 techs @ 43 hrs	= 405 hrs	
	4.5 auditors	= 109 hrs	654 hrs
TEMPO adjs.	7 techs @ 50 hrs	= 350 hrs	
	9.5 techs	= 351 hrs	
	4.5 auditors	= 272 hrs	972 hrs

Data re number of TEMPO Adjs (SAMPLE PP#19)

Amended T&A		
	(TC 920/930)	250
	(TC 940/941)	124
	(TC 900)	200

25X1

Difference Payments   80

Effective Dates:
```
      Return to Duty              8
      Salary Changes            31
      EOD's                     22
      Contract Extensions       11
      Separations                2
      Arrivals/Departures       75
      Misc                       7
                  Total    810
```

Estimate that 810 TEMPO's out of 1254 or 64% for PP 19 could
possibly be eliminated.

Man hours devoted by payroll to major function
(16.5 technicians and 4.5 auditors-Total 21)

	Total hrs	%	Pro Rata Hrs R/T	Pro Rata Hrs O/T
1. Preparation of TEMPO adjs.	960	46	776	184
2. Preparation of Master Files	650	31	526	124
3. Batching T&A cards	48	2	40	8
4. All other (EST)	422	21	338	84
Totals	* 2080	100%	1680	400

*21 personnel x 80 hrs + 400 hrs O/T = 2080 hrs available

<u>Percentage Factor:</u> Equates to percentage of time spent on major function.

<u>Pro rata Breakdown:</u> Percentage of total hrs pro rated against regular and overtime hrs.

Estimated reduction in above workload by major function
if concepts adopted

	Percentage			Est Reduction
1. Preparation of TEMPO's	64%	x 960	=	614 hrs
2. Preparation of Master Files	50%	x 650	=	325 hrs*
3. Batching T&A cards	100%	x 48	=	48 hrs
4. Other	10%	x 422	=	42 hrs

*Conservative Estimate

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